

Getting Ready for Unit Two

Date: _____

A. Solving Equations

Isolating the variable by performing opposite operations.

EX: $5x - 2 = -22$

$$3x - 1 = 2x - 2$$

$$\frac{1}{3}x + 4 = \frac{1}{2} - 1$$

EX: Convert $3x + 2y = 5$ to the form $y = mx + b$.

B. Slope of a Line

To determine the slope of a line, m , given the coordinates of two points

(x_1, y_1) and (x_2, y_2) on the line we use the formula $m = \frac{y_2 - y_1}{x_2 - x_1}$

EX: Find the slope of the line through the points $(3, -5)$ and $(-5, 1)$.

C. Equation of a Line

Given the slope and y-intercept - the formula for an equation of a line is $y = mx + b$. This is called the "slope, y-intercept form."

EX: Find the equation of a line with a slope of -3 and the y-intercept 8.

EX: Find the equation of a line going through the points (3, 2) and (-6, -1).

ANOTHER METHOD: Using the "Point - Slope Form"

When you are given a point (x_1, y_1) and the slope you can find the equation of the line by using the following formula: $y - y_1 = m(x - x_1)$.

Then rearrange your line into "standard form" which is $Ax + By + C = 0$

EX: Find the equation of the line with a slope of -3 going through the point (4, -2).

D. Parallel and Perpendicular Lines

Recall: Parallel Lines have the same slope. The slopes of perpendicular lines have slopes that are negative reciprocals of each other.

EX: Find the equation of the line parallel to $y = -2x + 3$, going through the point (1, 5).

EX: Find the equation of the line perpendicular to $y = 4x - 2$, going through the point (0, -3).